

ABSTRACT

A fuel cell system is described which comprises a power source and a fuel storage unit. A flowable fuel is contained with the fuel storage unit. A first flow path delivers fuel from the fuel storage unit to the power source. Some or all of this fuel is deposited into the individual cell cavities within the power source. A second flow path delivers fuel that is not deposited into the cell cavities to the fuel storage unit. A third flow path delivers unused and/or partially used fuel and/or reaction products and/or spent reaction solution from the cell cavities back to an optional reaction product storage unit and/or the fuel storage unit and/or to the second flow path. The system may further comprise an optional reaction product storage unit, an optional regeneration unit, an optional second reactant storage unit, an optional controller, and an optional power converter.